

**I claim:**

1. An isolated canine L-PBE polypeptide wherein the amino acid sequence comprises  
SEQ ID NO:2, or a fragment thereof comprising an epitope specific to said  
5 polypeptide.
2. An antibody specific for the canine L-PBE polypeptide of claim 1.
3. The antibody of claim 2 which is a monoclonal antibody.
- 10 4. A hybridoma that produces an antibody according to claim 3.
5. A cell-free composition comprising monoclonal antibodies, wherein at least one of  
said antibodies is an antibody according to claim 3.
- 15 6. An isolated polynucleotide comprising SEQ ID NO: 1 or a fragment thereof  
comprising at least 12 consecutive nucleotides of SEQ ID NO:1 or the non-coding  
strand complementary thereto with the provision that said fragment comprises a  
nucleotide sequence that differs from any portion of the sequences set forth as SEQ ID  
20 NO: 11, 13, 15 and from their complementary strands by at least one nucleotide.
7. The isolated nucleic acid of claim 6 wherein the nucleic acid is single stranded.
8. The isolated nucleic acid of claim 6 comprising at least 12 consecutive nucleotides  
25 of the complement of SEQ ID NO:1.
9. An array of nucleic acid molecules, attached to a solid support, the array  
comprising the polynucleotide of claim 6.
- 30 10. An isolated polynucleotide comprising a nucleotide sequence that encodes a  
polypeptide comprising an amino acid sequence that is at least 95% homologous to  
SEQ ID NO:2 and which encodes a polypeptide having L-PBE activity.

10. The isolated polynucleotide of claim 10 which encodes the polypeptide of SEQ ID NO:2.

12. A method for determining the amount of canine L-PBE polynucleotide present  
5 within a sample derived from a dog comprising:  
contacting the sample with a nucleic acid molecule comprising SEQ ID NO:1 or  
fragments thereof or their complements under conditions for the formation of one or  
more specific hybridization complexes, wherein the fragments are polynucleotides  
comprising at least 12 consecutive nucleotides of SEQ ID NO:1.

10

13. A method for measuring the metabolic response to a test agent in a dog  
comprising:

a) providing a sample containing nucleic acids from a dog treated with a test agent;  
b) determining the amount of polynucleotide comprising SEQ ID NO:1, or a  
15 fragment thereof or their complements in said sample, wherein a change in the amount  
of the polynucleotide from a treated dog, as compared with the amount of the  
polynucleotide from an untreated dog, is indicative of a metabolic response to the test  
agent.

20 14. The method of claim 13 wherein the determining is accomplished via  
hybridization.

15. The method of claim 14 wherein the hybridization is accomplished by:  
a.) contacting the sample with a nucleic acid molecule comprising SEQ ID NO:1 or  
25 fragments or their complements thereof under conditions for the formation of one or  
more specific hybridization complexes, wherein the fragments are polynucleotides  
comprising at least 12 consecutive nucleotides of SEQ ID NO:1; and  
b) detecting hybridization complexes, wherein a change in amount of hybridization  
complexes formed from nucleic acid molecules from an treated dog, as compared with  
30 the amount of hybridization complexes formed from nucleic acid molecules from an  
untreated dog, is indicative of a metabolic response to the test agent.

16. The method of claim 15 wherein the nucleic acid molecule is attached to a solid

support.

17. A method for determining the amount of canine L-PBE polypeptide present within a sample comprising:

- 5 contacting a canine L-PBE polypeptide with an antibody specific for the canine L-PBE polypeptide, under conditions wherein the antibody binds the canine L-PBE polypeptide.

18. The method of claim 17 wherein the canine L-PBE polypeptide is attached to a  
10 solid support.

19. The method of claim 17 wherein the antibody is attached to a solid support.

20. A method for measuring the metabolic response to a test agent in a dog  
15 comprising:

- a) providing a sample from a dog treated with a test agent;  
b) determining the amount of polypeptide comprising SEQ ID NO:2, or a fragment thereof comprising an epitope specific to said polypeptide in said sample, wherein a change in the amount of the polypeptide from a treated dog, as compared with the  
20 amount of the polypeptide from an untreated dog, is indicative of a metabolic response to the test agent.

21. The method of claim 20 wherein the determining is accomplished by contacting a canine L-PBE polypeptide with an antibody specific for the canine L-PBE  
25 polypeptide, under conditions wherein the antibody binds the canine L-PBE polypeptide.